

Undergoing a Cardiac Catheterization?

How the Makoto[™] Intravascular Imaging System Can Help



**PATIENT INFORMATION
GUIDE**

IVUS+NIRS IMAGING

Charting the Uncharted Territories of Coronary Artery Disease



HOW DOES IVUS+NIRS IMAGING WORK?

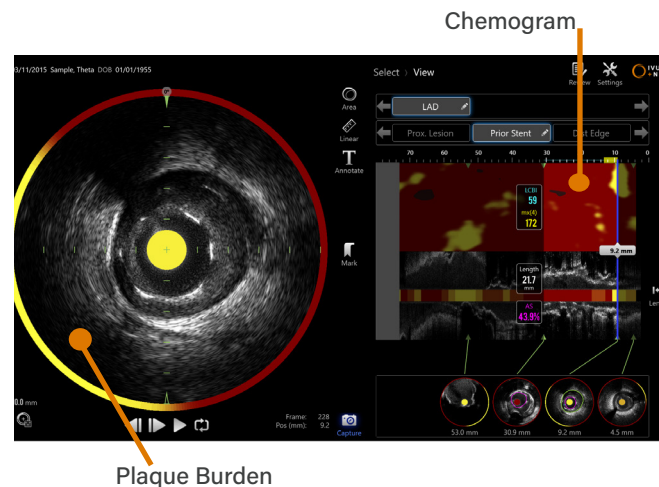
Much like adding color to a black and white photo, the Makoto™ Intravascular Imaging System and Dualpro™, IVUS+NIRS Catheter allows your doctor to see your arteries in much greater detail. The Imaging System provides a black and white image of your artery shape and a colored exam (Chemogram) of your artery wall composition. This is done combining both intravascular ultrasound (IVUS) and near-infrared spectroscopy (NIRS) technologies.

Plaques rich in cholesterol may be prone to rupture, causing heart attacks or coronary events. The Chemogram, appears yellow where there is cholesterol and lipid rich plaques. The red colored portions of the exam show where there is no lipid core plaque detected. The Makoto™ Intravascular Imaging System tells your doctor the the full story of your vessel walls.

For patients, this procedure could mean better results and a reduced risk of complication, keeping you out of the hospital, recovering in your own home.

INTRAVASCULAR ULTRASOUND (IVUS) uses the same technology that lets an expectant mother see her child in the womb. Sound waves are sent out to “map” the size, shape, and location of features beneath the surface. IVUS is used to help ensure that procedures like stenting are safe and effective.²

NEAR-INFRARED SPECTROSCOPY uses light to detect plaque composition. It has been used for decades by food manufacturers, cosmetic producers and doctors. A harmless laser sends light that bounces off objects and returns to the source for analysis, NIRS data for an entire vessel is displayed in a chemogram (see photo right), an easy to understand map of an artery. Simple color-coding means cholesterol can be found and assessed at a glance.



IS MAKOTO IMAGING SAFE?

Yes! Intravascular imaging catheters are used every day in thousands of angiography procedures around the world. The risk of complications with Makoto Imaging is incredibly low and it is the same risk seen with any IVUS catheter. The Makoto™ Imaging System and Dualpro™ IVUS+NIRS Catheter have been proven to be safe and effective in patients around the world.





UNDERGOING A CARDIAC CATHETERIZATION PROCEDURE?

A cardiac catheterization is a minimally invasive procedure performed to get a better look at the heart, valves and arteries. During the procedure you will be conscious and able to communicate with your doctor.

Your doctor will make a small puncture into the artery at your wrist or leg and insert a thin, hollow tube called a catheter. The catheter will be guided into your heart while a contrast dye is injected so the doctor can examine your heart.



During your procedure, your doctor may use the Makoto™ Imaging System and its accompanying Dualpro™ IVUS+NIRS Catheter. Not all plaques are the same. Stable plaque is just that-stable. These progress slowly. Some lipid core plaque (LCP), or unstable plaque, have thin caps. These are more prone to rupture, which could cause a heart attack.

With the help of the Makoto™ your physician can now distinguish at a glance between calcified plaque and a higher-risk cholesterol rich plaque.

The Makoto™ Imaging System, and its accompanying Dualpro IVUS+NIRS Catheter, is a dual-modality intravascular imaging system combining IVUS+NIRS technology. The system has the ability to assess vessel structure and plaque composition, which can help your doctor determine between plaques that are stable and those at higher risk, which means better treatment management and individualized for you.



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